REMARKS

The Examiner has objected to claims 16 and 17 as failing to conform to the invention as set forth in Applicant's specification. Applicant has cancelled claims 16 and 17 making the objection moot.

The Examiner has rejected claims 12-20 and 23 under 35 U.S.C. 103(a) as being unpatentable over Lapsley et al. (US 5,737,439) and Mainguet (US 6,289,114). Applicant respectfully traverses the rejections. Claims 12, 14, 20 and 21 have been amended, claims 16-19 have been cancelled, and new claims 24-44 have been added to better point out and distinctly claim what Applicant regards as his invention.

Claim 12 now recites:

12. (currently amended) A device, comprising:

a scanning fingerprint image sensor operable for acquiring partial images of a fingerprint of a finger;

a spectral transmission sensor for acquiring partial spectral transmission information relating to skin of the finger; and

circuitry coupled to the sensors and operable for initiating alternate acquisition of the partial images and the partial spectral transmission information.

Lapsley alone or in combination with Mainguet fails to show or suggest "circuitry coupled to the sensors and operable for initiating alternate acquisition of the partial images and the partial spectral transmission information," as claimed. As stated on page 4, at lines 30-33 of Applicant's specification:

> The acquisitions may also take place alternately: partial print image acquisition followed by partial spectral information acquisition, and another partial print image acquisition, etc.

Thus the device alternately acquires partial print images and partial spectral information. This claimed feature helps prevent fraud where an individual alternately presents a false fingerprint to the image sensor, followed by a false spectral print. See, Applicant's specification, page 6, lines16-31.

By contrast, Lapsley discloses a fingerprint image light source for illuminating a finger to allow an image of a fingerprint of an object (finger) to be formed. The fingerprint image light source is then turned off and a microprocessor uses LEDs and a photodector to determine whether or not the object being scanned exhibits characteristics of blood flow consistent with that of a live human. Thus Lapsley discloses scanning the entire fingerprint in a single scan, followed by a step for detecting blood flow. See Lapsley at 7:40:50. Lapsley, does not show or suggest "circuitry coupled to the sensors and operable for initiating alternate acquisition of partial images and partial spectral transmission information," as claimed. Rather, Lapsley discloses a two-step sequence (turning a light source on, then turning the light source off) but does not teach an alternating sequence (turning a light source on, turning the light source off, then turning the light source back on again).

Mainguet does not cure the deficiencies of Lapsley. Specifically, Mainguet fails to disclose acquisition of "partial spectral transmission information relating to skin of the finger," as claimed. Nor does Mainguet disclose "circuitry coupled to the sensors and operable for initiating alternate acquisition of the partial images and the partial spectral transmission information," as claimed.

The failure of Lapsley and Mainguet to show or suggest all the limitations of claim 12 vitiates any basis for rejection of claim 12 under 35 U.S.C. 102 or 103. Applicant respectfully requests the Examiner withdraw his rejection of claim 12 and allow claim 12 as amended.

Claims 13-15 and 20-23 depend from claim 12 and are thus allowable for at least the same reasons as claim 12, and for the independent subject matter recited in claims 13-15 and 20-23. Applicant respectfully requests that the Examiner withdraw his rejections of claims 13-15 and 20-23 and allow claims 13-15 and 20-23.

New claim 24 recites:

24. (new) A method comprising:

acquiring a fingerprint image of a first finger of a person;

acquiring a spectral characteristic of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure; and

using at least a portion of the fingerprint image and at least a portion of the spectral characteristic information to recognize the person.

Lapsley alone or in combination with Mainguet fails to show or suggest "acquiring a spectral characteristic of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure," as claimed. Nor does Lapsley or Mainguet disclose "using at least a portion of the fingerprint image and at least a portion of the spectral characteristic information to recognize the person," as claimed. As described in Applicant's specification, "the information particular to a each individual lies in the structure of the dermis." A person is thus recognized, in part, using the dermis structure.

By contrast, Lapsley discloses detecting blood flow. This detection is used to determine if the object is from a "live human" and not for recognizing the human. Lapsley neither shows nor suggests how blood flow detection can be used to recognize a human.

New claims 25-28 depend from claim 24 and are thus allowable for at least the same reasons as claim 24, and for the independent subject matter recited in claims 25-28. Applicant respectfully requests that the Examiner allow claims 24-28.

New claims 29-33 include similar limitations as claim 24 but are directed to a device. Application respectfully requests that the Examiner allow claims 29-33 for at least the same reasons as claim 24-28.

New claim 34 recites:

34. (new) A method comprising:

acquiring a fingerprint image of a first finger of a person;

acquiring a spectral characteristic of skin of the first finger or a second finger of the person;

checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and

using a result of the checking to recognize the person.

Lapsley alone or in combination with Mainguet fails to show or suggest "checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information," as claimed. Nor does Lapsley or Mainguet disclose "using a result of the checking to recognize the person," as claimed.

By contrast, Lapsley discloses detecting blood flow. This detection is used to determine if the object is from a "live human" and not for recognizing a human. Neither Lapsley nor Mainguet show or suggest how a result of checking consistency between a fingerprint image and spectral characteristic information can be used to recognize a human.

New claims 35-36 depend from claim 34 and are thus allowable for at least the same reasons as claim 34, and for the independent subject matter recited in claims 35-36. Applicant respectfully requests that the Examiner allow claims 35-36.

New claims 37-44 include similar limitations as claim 34 but are directed to a device. Application respectfully requests that the Examiner allow claims 37-44 for at least the same reasons as claims 34-36.

Please apply the required excess claims fee of $780. and any other charges to deposit account 06-1050.

Respectfully submitted,

Date: December 18, 2007

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